

AMENDMENTS TO THE CLAIMS

The listing of claims below replaces all prior versions of claims in the application.

1. (Currently Amended): A method of correcting shifts in position and attitude of an object which is held by a holding member of a DNA micro-array preparing apparatus and to which fiducial mark 1 and fiducial mark 2 are applied, said method comprising the steps of:

Obtaining a first position data of the fiducial mark 1 by image-processing the fiducial mark 1 by an imaging device of the DNA micro-array preparing apparatus;

rotating the holding member holding the object to be held substantially by 180 degrees in a horizontal plane;

obtaining a second position data of the fiducial mark 2 by image-processing the fiducial mark 2 rotated by 180 degrees by the imaging device of the DNA micro-array preparing apparatus; and

operating, on the basis of the first position data of the fiducial mark 1 and the second position data of the fiducial mark 2 rotated by 180 degrees, an amount of position shift from a rotational center of the holding member to a center of the object to be held and an amount of angle shift of the object in the horizontal plane with respect to a fiducial line of the holding member,

wherein said amount of position shift and said amount of angle shift is obtained by two times image-processing, said two times image-processing includes image-processing for obtaining said first position data and said second position data.

2. (Previously Presented): The method of correcting shifts in position and attitude of an object according to claim 1, wherein the object to be held is a head of said DNA micro-array preparing apparatus for arranging a number of spots on a substrate.

3. (Currently Amended): A computer readable medium contains program code for correcting shifts in position and attitude of an object which is held by a holding member and to which fiducial mark 1 and fiducial mark 2 are applied, said program code being executed by a computer implements:

 a sequence for obtaining a first position data of the fiducial mark 1

 a sequence for rotating the holding member holding the object to be held substantially by 180 degrees in a horizontal plane;

 a sequence for obtaining a second position data of the fiducial mark 2 rotated by 180 degrees; and

 a sequence for executing an operation, on the basis of the first position data of the fiducial mark 1 and the second position data of the fiducial mark 2 rotated by 180 degrees, for calculating an amount of position shift from a rotational center of the holding member to a center of the object to be held and calculating an amount of angle shift of the object in the horizontal plane with respect to a fiducial line of the holding member,

wherein said amount of position shift and said amount of angle shift is obtained by two times image-processing, said two times image-processing includes image-processing for obtaining said first position data and said second position data.

4. (Currently Amended): An apparatus for correcting shifts in position and attitude of an object which is held by a holding member and to which fiducial mark 1 and fiducial mark 2 are applied, said apparatus comprising:

an imaging device for imaging the fiducial mark 1 and fiducial mark 2;

an image-processing device for processing image information imaged by the imaging device to thereby obtain a first and second position data;

a rotating mechanism for rotating the holding member holding the object to be held substantially by 180 degrees in a horizontal plane; and

an operation unit for operating, on the basis of the first position data of the fiducial mark 1 and the second position data of the fiducial mark 2 rotated by 180 degrees, an amount of position shift from a rotational center of the holding member to a center of the object to be held and an amount of angle shift of the object in the horizontal plane with respect to a fiducial line of the holding member,

wherein said amount of position shift and said amount of angle shift is obtained by two times image-processing, said two times image-processing includes image-processing for obtaining said first position data and said second position data.